

Sustainable Industrial Production Success Stories 2005 Aceros Industriales



Aceros Industriales is a mid-sized metal-working company in Medellín, Colombia with a staff of 120 and around 5 million USD of assets. The company receives steel bars and then transforms these into coils of different size and shape. The company is ISO 14'000 cer-

tified. In 2004 the company applied for a Green Credit Trust to the Colombian bank Corfinsura and to the Cleaner Production Center of Colombia. The credit was approved and the company finished implementation mid 2005.

Sustainable Production at Aceros Industriales



Old installations based on chemical treatment of steel



New installations based on mechanical treatment.

Originally the company had a chemical preparation of metals. This process was changed towards a mechanical one. The company changed the complete production line, the plant layout and the core production process with this investment. The impact of this investment are significant changes in the environmental, economic as well as social field. The new production process also reduces throughput times and improves the product quality. The competitive position of the company is thus clearly improved giving an example of sustainable industrial production modes.

Results

The investment realized by the company is 640'000 USD in new equipment. The major economic impacts are an improved product quality, an increased productivity due to a reduced throughput-time, reduced chemical and fuel usage and less maintenance of other equipment of the company which was corroded by the acids used in the chemical treatment. The quality improvement alone is estimated by the company to be worth 5% additional price which results in an additional income of more than 300'000 USD/year. Also the productivity gains are significant as the working capital can be reduced by around 1.5 million USD. In total the economic benefits are estimated at around 500'000 USD per year. The investment is thus recuperated in less than 2 years. However without GCT and the corresponding incentive the company would have only gradually changed its production method due to lack of finance and too much capital being tied-up by one single investment. Also the economic gains from quality are not immediate as the company cannot directly hike up its

prices by 5%. With the old process and product quality the company would however have been obliged to offer with the time a discount of 5% to remain in the market and compete with imported products.

The environmental benefits of the change are a complete elimination of effluents and annually more than 60 tons of sludge of the company (the company scrapped its small wastewater treatment unit and made a parking lot out of this space), around 400t/year reduced CO₂ emissions (the boiler was sold and no more fuel oil or gas is used – while the new equipment requires more electricity the net energy and CO₂ effect is still highly positive), around 8'000m³ reduced water consumption per year and no more usage of hazardous chemicals.

The working environment also improved considerably as chemicals used before led to indoor air pollution and strenuous working conditions. Also the new plant layout improved safety conditions of the enterprise.

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